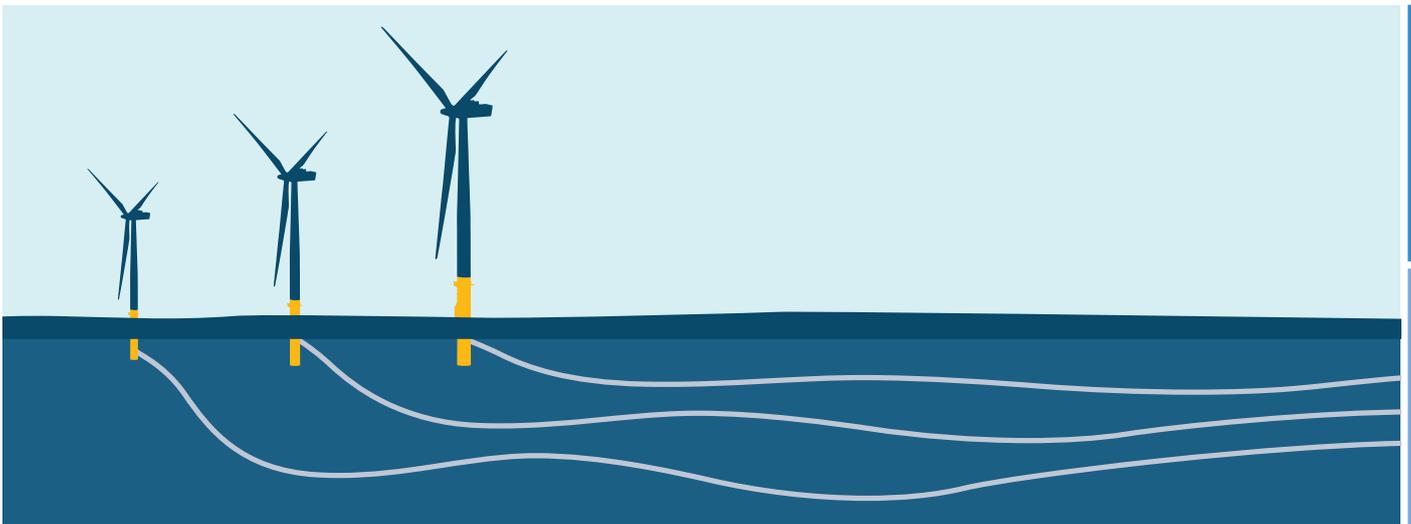


ARRAY CABLE LAYOUT OPTIMISATION FOR FLOATING WIND FARMS



RES Offshore has developed specialised tools to assess and optimise array cable layouts for offshore renewable projects such as fixed and floating offshore wind farms or tidal arrays.

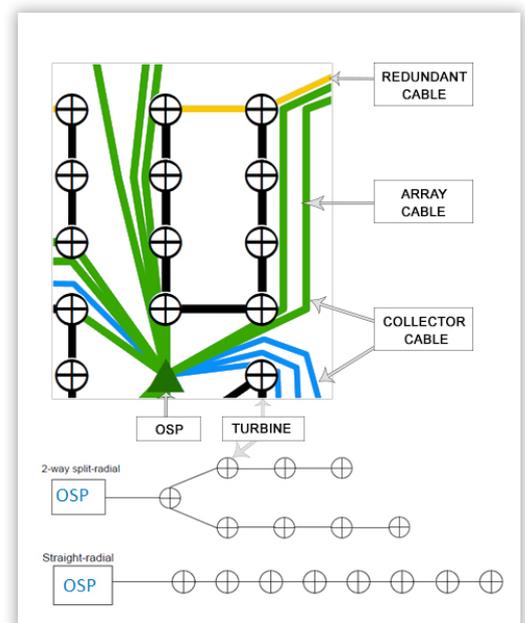
A number of design parameters can be varied in order to best optimise the array cable layout for an offshore renewable project:

- Cable voltage
- Circuit arrangement: radial, split-string, or other arrangement
- Location of the offshore substation (OSP)
- Level of redundancy
- Cable routes

The CabMan tool allows a quick and efficient preliminary design of a number of array cable layout options. It is linked to GIS (Geographical Information Systems) and, therefore, allows the designer to take into account various spatial constraints such as existing cables, sand dunes or ship wrecks. CabMan analyses the array cable layouts and outputs parameters that are then fed into a total economic lifetime cost model. This model includes:

- Cable supply and installation costs
- Cable protection system supply and installation costs
- Switchgear supply costs
- Electrical losses
- Cost of unavailability through component failure
- Temporary power during component failure

Other components can also be added in order to reflect the complexity and specifics of a given project, or to answer a particular question. This allows us to assess a large number of options and to make an informed decision regarding the most cost-effective array cable layout options for a given project.



About RES Offshore

RES Offshore offers integrated development, engineering, construction and AO&M services for utility-scale renewable energy projects. From offshore wind to wave and tidal, we bring to projects the considerable skills and experience that we have acquired over 30 years in the renewables industry. RES Offshore is part of the RES Group, one of the world's leading renewable energy project developers. To date, RES has delivered more than 8000MW of wind energy capacity worldwide.

RES Offshore has the full range of in-house capabilities required to deliver each of the project phases and this allows us to develop cost-effective, innovative solutions that can make the difference between project failure and success.

We have applied our development, engineering and technical skills and experience to a number of successful offshore projects and we can provide our services either as a defined package of work or as part of the owner's project team.

RES Offshore has a wealth of in-house experience built on our participation in UK Rounds 1, 2 and 3, and also in the development of projects in Northern Ireland and France. Having expertise and experience on hand has enabled us to engineer designs, mitigate environmental concerns, optimise energy yields and deal with complex technical and performance issues. We work closely with turbine suppliers, electrical equipment manufacturers, grid utilities and statutory authorities to find the right solutions.

For further information:

RES Offshore
Faraday House
Station Road
Kings Langley
Hertfordshire
WD4 8LH

T +44 (0)1923 608 200

E info@res-offshore.com

www.res-offshore.com



res
power for good